



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,843	05/30/2007	Desmond Ebenezer	920629-104211	5436

24628 7590 01/30/2009

Husch Blackwell Sanders, LLP  
Husch Blackwell Sanders LLP Welsh & Katz  
120 S RIVERSIDE PLAZA  
22ND FLOOR  
CHICAGO, IL 60606

EXAMINER
----------

HOLLINGTON, JERMELE M

ART UNIT	PAPER NUMBER
----------	--------------

2829

MAIL DATE	DELIVERY MODE
-----------	---------------

01/30/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,843	<b>Applicant(s)</b> EBENEZER ET AL.	
	<b>Examiner</b> Jermele M. Hollington	<b>Art Unit</b> 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8, 10-13, 15 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Bosco et al (5852395).

Regarding claim 1, Bosco et al disclose [see Fig. 1] Current measurement apparatus comprising a Rogowski coil (Rogowski coil 1) wherein the Rogowski coil (1) comprises a wire (winding 2) which is insulated prior to forming the Rogowski coil (1) [see col. 2, lines 7-8].

Regarding claim 8, Bosco et al disclose the Rogowski coil (1) comprises a single insulated wire (2) which provides a central conductor [not shown but see col. 2, lines 22-25] and a coil (torus 3).

Regarding claim 10, Bosco et al disclose the Rogowski coil (1) is formed by providing a straight central conductor section [not shown but see col. 2, lines 22-25] and winding a coil (torus 3) around at least a part of the straight electrical conductor section [see col. 2, lines 20-25].

Regarding claim 11, Bosco et al disclose Rogowski coil (1) comprises an inner sheath (torus 3).

Regarding claim 12, Bosco et al disclose wire (2) comprises copper wire.

Art Unit: 2829

Regarding claim 13, Bosco et al disclose the Rogowski coil (1) comprises inherently [see **Note** below] an end wherein the end does not require an insulation cap.

[**Note:** Although the prior art does not specifically disclose the claimed "an end", this feature is seen to be an inherent teaching of that device since it is well known in the art that Rogowski coil has ends for the coil to function as intended.]

Regarding claim 15, Bosco et al disclose the Rogowski coil (1) comprises inherently [see **Note** below] a first end and a second end.

[**Note:** Although the prior art does not specifically disclose the claimed "an end", this feature is seen to be an inherent teaching of that device since it is well known in the art that Rogowski coil has ends for the coil to function as intended.]

Regarding claim 23, Bosco et al disclose a method of forming current measurement apparatus comprising forming a Rogowski coil (Rogowski coil 1) from an insulated wire (winding 2).

Regarding claim 24, Bosco et al disclose a method comprises forming a central conductor section [not shown but see col. 2, lines 22-25] and forming a coil (torus 3) around the central conductor section using insulated wire (winding 2) [see col. 2, lines 7-11 and 20-25].

Regarding claim 25, Bosco et al disclose a method of forming measuring current [see Fig. 1] comprising using current measurement apparatus in accordance with claim 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2829

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-7, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bosco et al (5852395) in view of Ishii et al (EP 1394818A1).

Regarding claim 2, Bosco et al disclose the wire (winding 2). However, they do not disclose wire is insulated by insulating material. Ishii et al disclose [see Fig. 1] a current measurement apparatus comprising a wire (conductor 6a) that is insulated by insulating material (insulating layers 6b, 6c and 6d). Further, Ishii et al teaches that the addition of insulating materials insulating the wire is advantageous because it helps cover the wire to provide more heat resistance while increasing production speed (see paragraphs [0002], [0008]-[0009]). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the apparatus of Bosco et al by adding insulating material around the wire as taught by Ishii et al in order to provide more heat resistance while increasing production speed during used of the current measurement.

Regarding claim 3, Ishii et al disclose insulating material (insulating layers 6b, 6c and 6d) is resistant to physical damage (see paragraph [0059]).

Regarding claim 4, Ishii et al disclose the complete outer surface of the wire (6a) is coated with an insulating material (6b, 6c and 6d).

Regarding claim 5, Ishii et al disclose the complete outer surface of the wire (6a) is coated with an insulating material (6b, 6c and 6d) which provides reinforced insulation (see paragraphs [0059]-[0069]).

Regarding claim 6, Ishii et al disclose insulating material (6b, 6c and 6d) comprises a wrapping for the wire (6a).

Art Unit: 2829

Regarding claim 7, Ishii et al disclose the insulating material (6b, 6c and 6d) is an extrusion (see paragraph [0059]).

Regarding claim 9, Ishii et al disclose the insulating material (6b, 6 and 6d) coating is less than or equal to 0.125mm (see paragraph [0059]).

Regarding claim 14, Ishii et al disclose the wire (6a) comprises a plurality of layers of insulating material (6b, 6c and 6d).

5. Claims 16-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bosco et al (5852395) in view of Kato (6885183).

Regarding claim 16, Bosco et al a Rogowski coil (1). Nevertheless, it is well known, as shown by Kato, that the coil in use, the first end is arranged, in use, to locate adjacent to the second end as claimed. Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end (end 9a) is arranged, in use, to locate adjacent to the second end (end 9b).

Regarding claim 17, Bosco et al a Rogowski coil (1). Nevertheless, it is well known, as shown by Kato, that the coil has a first end member located on the first end is arranged, in use, to engage a second end member located on the second end. Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end member (beginning loop 12a) located on the first end (9a) is arranged, in use, to engage a second end member (end loop 12b) located on the second end (9b).

Regarding claim 18, Bosco et al a Rogowski coil (1). Nevertheless, it is well known, as shown by Kato, that the coil has a first end member located on one end of the Rogowski coil is arranged, in use, to cooperate with a second end member located on a second end of the Rogowski coil. Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end member (12a)

Art Unit: 2829

located on one end (9a) of the Rogowski coil (12) is arranged, in use, to cooperate with a second end member (12b) located on a second end (9b) of the Rogowski coil (12).

Regarding claim 19, Bosco et al a Rogowski coil (1). Nevertheless, it is well known, as shown by Kato, that the coil has a first end of the Rogowski coil is arranged, in use, to cooperate with a second end member located on the second end of the Rogowski coil in order to form a contiguous loop. Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end (9a) of the Rogowski coil (12) is arranged, in use, to cooperate with a second end member (12b) located on the second end (9b) of the Rogowski coil (12) in order to form a contiguous loop.

Regarding claim 20, Bosco et al a Rogowski coil (1). Nevertheless, it is well known, as shown by Kato, that the coil has a first end of the Rogowski coil is arranged to magnetically cooperate with a second end of the Rogowski coil. Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end (9a) of the Rogowski coil (12) is arranged to magnetically cooperate with a second end (9b) of the Rogowski coil (12).

Regarding claim 21, Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end (9a) of the Rogowski coil (12) is arranged, in use, to cooperate with a second end member (12b) located on a second end (9b) of the Rogowski coil (12) in order to form a contiguous loop the first end member (12a) comprises a female member and the second end member (12b) comprises a male member.

Regarding claim 22, Kato disclosed in Fig. 1, that Rogowski coil (12) has a first end member (12a) is arranged in use, to be secured to the second end member (12b) solely by magnetic force.

Art Unit: 2829

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:00 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermele M. Hollington/  
Primary Examiner  
Art Unit 2829

/J. M. H./  
January 27, 2009